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GREEN SPRINGS
PEPPER VARIETY TRIALS
1974

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GREEN SPRINGS PEPPER VARIETY TRIALS, 1974

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Twenty pepper varieties were evaluated in replicated trials at the Green Springs Crops Research Unit in 1974. Varieties used were generally confined to the sweet or bell type with the exception of Hungarian Wax.

Procedure

Seed were obtained from the following sources:

1. Asgrow Seed Co., Kalamazoo, Mich.
2. W. Atlee Burpee Co., Philadelphia, Pa.
3. Ferry Morse, Buffalo, N. Y.
4. Joseph Harris Co., Inc., Rochester, N. Y.
5. Dr. S. Honma, Dept. of Horticulture, Michigan State University, East Lansing
6. Letherman's, Inc., Canton, Ohio
7. Seedway, Inc., Hall, N. Y.
8. Otis S. Twilley Seed Co., Salisbury, Md.

Seed of the various varieties were planted in flats of vermiculite in the greenhouse on March 27; pricked off into 2.5-inch peat pots containing a 1:1:1 mix of peat, sand, and silt loam soil; and set in the field by hand on May 22. Plants were spaced 18 inches apart in rows 3 feet wide. Plots were single rows 20 feet long. Each variety was replicated three times.

Prior to transplanting, the sandy loam soil was amended by broadcasting and incorporating 400 lb. per acre of 10-20-20; an additional 400 lb. per acre was banded beside rows. One-half pint of 10-52-17 starter solution was applied around each plant. Stands were essentially 100 percent throughout the season.

Culture and pest control methods corresponded to commercial practices in the area. Weeds were controlled satisfactorily by the use of mechanical cultivation in combination with Treflan. Sevin was used for control of European corn borer and Thiodan was applied as needed for aphids. Dithane M-45, Bravo, and copper were alternated for disease control. With the exception of blossom end rot (BER), disease and fruit disorders were minimal.

Plots were irrigated once in late July but suffered slightly from drought during early August as indicated by incipient wilting and a high incidence of sunscald and blossom end rot. Fruit were harvested at the mature green stage beginning on August 2 and continuing approximately weekly until Sept. 30, at which time the planting was frosted. Since frozen fruit were weighed and counted as culls, late-maturing varieties may have been slightly discriminated against. However, not more than 11% of the total fruit yield was frosted for any variety.

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Results

Yields of marketable fruit ranged from 6.29 to 12.46 tons per acre (Table 1). Generally speaking, high-yielding varieties also tended to produce fruit of good quality with the exception of Merrimack Wonder. Fruit of Merrimack Wonder showed an excessive amount of purpling which detracted considerably from the overall appearance; likewise, many were a transparent light green color or showed yellowing, indicative of heat or drought stress.

Cullage was accounted for primarily by blossom end rot and sunscald in 1974. Only one fruit was found to contain corn borers. Hot, dry weather undoubtedly contributed to the blossom end rot disorder. Despite adverse conditions, however, some varieties, including Sonnette and Tilley Wonder L., showed a very low incidence of BER; others, including California Wonder 300, Midway, Titan, World Beater, Pennbell, and Allbig, appeared to be relatively susceptible. Varieties producing high yields of marketable fruit tended to be less susceptible to BER.

Varieties were examined in the field for growth habit, foliage cover of fruit, leaf size, and other factors on Sept. 16. Earlier maturing varieties had essentially ceased flowering at that time. The following comments are applicable for the Green Springs location and the set of weather conditions encountered in 1974.

Field Observations

Bell Boy Hybrid -- Large, spreading plants. Only fair foliage cover. Leaves curled, suggesting drouth. Fruit borne pendent. Leaves are medium-large.

Keystone Resistant Giant -- Large, upright, compact, attractive plants. Dark green, large leaves. Good foliage cover. Pendent fruit.

Sonnette -- Low-growing, medium-sized plants. Average foliage cover. Pendent fruit. Few flowers. Dark green plants. Medium to large leaves. Plants semi-spreading.

Burpee's Bellringer -- Pendent fruit. Medium to large plants. Spreading growth habit. Medium-sized leaves. Some flowers. Fair to average foliage cover.

Merrimack Wonder -- Dark green, small plants. Fruits tend toward transparent greenness or unattractive scalded yellow. Fair amount of flowers. Leaves smallish. Doesn't look promising. Two missing plants.

Canape -- Small, spreading plants with small, firm leaves. Medium amount of flowers showing. Fruit pendent. A goodly percentage of red fruit. Only fair foliage cover.

Early Calwonder -- Low-growing, spreading but not sprawling. Dark green. Pendent fruit. Large leaves. Attractive plants.

Twilley's Big Pack -- Plants shorter than Staddon's; more upright growth with an almost flat canopy, Y-shaped. Very few open flowers. Fruit mostly pendent. Leaflets medium in size. Fruit probably smaller than Staddon's. Foliage about same dark green as Staddon's. Foliage cover is good.

Twilley Wonder L. -- Medium large, upright, attractive plants. Very compact. Fairly good foliage cover of pendent fruit. Larve leaves. Very few flowers.

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Hungarian Wax -- Fruit mostly pendent. Small to medium-sized plants. Mostly erect growth habit. Yellow, waxy fruit at maturity. Average number of open flowers for this date.

California Wonder 300 -- Medium to large plants. Pendent fruit, leaves. Good foliage cover. Large leaves.

Yolo Wonder L. -- Medium large, upright, attractive plants. Large leaves. Pendent fruit. Good foliage cover.

Midway -- Large, spreading plants. Pendent fruit. Only average or below foliage cover of fruit. Few flowers. Large fruit, leaves. Light-colored foliage.

Atlas -- Large, upright plants. Many flowers. Fruit mostly pendent. Large leaves.

Jade -- Dark green. Leaves give appearance of flattened canopy. Fair amount of upright fruit. Medium to good foliage cover. Few open flowers. Large leaves. Dark green, attractive fruit. One plant is missing. Plants mostly upright.

Florida Giant -- Medium to large plants. Resembles Staddon's closely, but a larger number of open flowers. Many fruit remaining. Large, soft leaves. Spreading growth habit. Fair to medium foliage cover.

Titan -- Dark green. Small to medium-sized plants. Upright habit. Pendent fruit. Good foliage cover. Very few flowers.

World Beater -- Leaves rolled conspicuously in upper canopy. Plants medium to large, somewhat sprawling. Medium foliage cover. Longish fruit, pendent. Medium number of flowers.

Pennbell -- Small to medium, compact, upright plants. Medium foliage cover. Very few flowers. Pendent fruit. Smallish leaves, but not as small as Canape. Average foliage cover.

Allbig -- Large, relatively light-colored plants. Spreading, poorly formed canopy. Only fair foliage cover of fruit. Fruit borne pendent. Long, thin, bell-shaped fruit. Medium-sized leaves.

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TABLE 1.--Yield and Fruit Characteristics of 20 Pepper Varieties, Green Springs, 1974

Variety	Source	Yield, T./A.		Percent Mkt.	Av. Wt., Lb.	Tip Shape*	No. Locules	Wall Thickness†	Av. Size, In.		Remarks
		Mkt.	Total						Lgth.	Dia.	
Bell Boy Hybrid	7	12.46	16.49	74.3	0.25	B	4	2-3	3.21	2.78	Attractive, smooth. Some variation.
Keystone Resistant Giant	4	11.02	13.85	79.3	0.29	B	4	2-3	3.15	2.88	Attractive, smooth. Dark green, thick.
Sonnette	5	10.83	12.95	83.3	0.23	B	4	2	3.33	2.46	BER resistant. Firm, blocky. Variable size.
Burpee's Bellringer	2	9.93	12.91	76.9	0.26	B	4	2	2.93	2.63	Attractive. Some variation in shape.
Merrimack Wonder	2	9.82	12.41	79.1	0.21	B-P	3-4	1-2	2.95	2.60	Excessive purple pigmentation.
Canape	4	9.37	12.88	72.3	0.17	B-P	2-3	1-2	2.97	2.37	Some fruit flattened.
Early Calwonder	7	9.32	11.73	75.1	0.26	B	4	3	3.10	2.73	Attractive but variable shape.
Twilley's Big Pack	8	9.01	12.45	72.4	0.28	B	4	3	2.95	2.93	Excellent dark green. Thick.
Twilley Wonder L.	8	9.01	11.44	78.7	0.25	B	4	3	4.42	2.73	Long, uniform. No BER. Attractive.
Hungarian Wax	4	8.54	9.24	92.1	0.06	P	3	1	4.40	1.15	Banana type.
California Wonder 300	1	8.29	11.85	69.6	0.26	B	3-4	2	3.05	2.75	Susceptible to BER. Smooth, dark green.
Yolo Wonder L.	8	8.08	10.48	76.5	0.26	B	3-4	3	3.08	3.00	Smooth, tapered.
Midway	7	8.08	12.63	61.7	0.26	B	3-4	2	3.25	3.00	Susceptible to BER. Variable size, shape.
Atlas	1	7.72	12.06	63.1	0.28	B	3-4	2	3.55	2.82	Blocky.
Jade	3	6.95	11.02	62.6	0.23	B-P	3-4	2	3.45	2.74	Long, slightly tapered.
Florida Giant	8	6.92	11.64	59.3	0.25	B	4	2-3	3.08	2.73	Variable shape.
Titan	6	6.81	9.34	72.3	0.26	B	3-4	2-3	3.43	2.70	Susceptible to BER. Tapered, uniform.
World Beater	3	6.73	10.42	63.1	0.22	B-P	3	1	3.81	2.54	Susceptible to BER. Variable shape.
Pennbell	4	6.48	10.24	62.5	0.24	P-B	3	2-3	3.23	2.46	Susceptible to BER. No uniformity.
Allbig	1	6.29	9.97	63.2	0.26	P-B	3	2	4.30	2.46	Susceptible to BER. Skin sunken, twisted.
LSD 05		2.75	2.40	9.96	0.03						

*B = blunt, blocky; P = pointed

†1, thin; 2, medium; 3, thick

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